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2.—*Notice of a Bifurcate Stream at Glen Lednoch Head, Perthshire.* By
Capt. T. P. WHITE, R.E.

(Communicated by Lieut. WHITE, R.A., F.R.G.S.)

A FEW miles from Comrie, in Perthshire, at the head of Glen Lednoch, there is a singular example of bifurcation, a notice of which, it is thought, may be interesting to the Royal Geographical Society.

A small rivulet rises under a craggy hill, one of the "Meall Buidhe" * Ranges, which separates the drainage systems of the Tay and Earn. The cliff is named "Creag Uigeach" (Anglice, crag of nooks or solitary hollows), and the feature appears on the Ordnance Survey published plan (6-inch sheet, 81, Perthshire). For a short distance the stream takes the course of a well-defined gully, till it is met and split into two by a very slight but immediate rise in the ground, which forms, as it were, the nose or narrow end of a pear-shaped bump or eminence. This bump, a little raised above, and therefore isolated from, the neck immediately south-west of it, is the extremity of a new ridge, which, starting from the fork, carries on the main watershed, hitherto coincident with the direction of the stream. This coincidence will be more clearly understood by regarding the valley down to that point as a mere groove in the watershed ridge. Of the two waters, after divergence, one becomes the "Finglen Burn," and descends into the valley of the Tay; the other, passing into Glen Lednoch, is a feeder of the river Earn, reunion being ultimately established in the Firth of Tay. A loop is thus formed which insulates a large area of the county of Perth, speaking roughly, about one-fifth.

My first observations of this feature were made in November, 1867, and reported to Sir H. James, Director of the Ordnance Survey. Shortly afterwards they were noticed in the 'Athenaeum' journal, and elicited from other correspondents some information, apparently making out that the bifurcation had been artificially produced. In face of the evidence adduced it seemed I had been mistaken, and in a subsequent letter I acknowledged the supposed mistake. In any case of the kind, exhaustive evidence to satisfy that no past disturbance of an artificial character had ever taken place would be almost impossible to obtain. In the present instance, however, what was stated against the idea of natural bifurcation broke down on subsequent inquiry. It was advanced by the late tenant of the ground, on the authority of his shepherd, that the stream originally flowed all into Glen Lednoch till a diversion was effected to the Finglen Burn by a former miller on Loch Tay side for the supply of his mill in dry seasons. Upon this point I took the evidence of three persons—the shepherd himself, the present tenant of the mill referred to, and the farmer of the adjoining land. Their statements, which were reported to me in writing, were taken independently, and entirely accorded. They are too lengthy for me to do more than sum up as follows:—

1st. That a former miller is believed to have placed a small drain at the fork of the stream, to *increase* (not to *create*, be it observed) a run of water to his mill on the Finglen side.

2nd. That the existence of the double outlet had always been regarded in the district as natural.

To this I may add the opinion formed on re-examination of the ground by an experienced observer, who considers it would require a considerable outlay to confine the waterflow permanently to a single channel either way, as the bifurcation would probably be restored by the first flood. Again,

* Yellow-hill.

the supposition of an original single channel into Glen Lednoch is further contradicted by some levels which were taken during the second inquiry. These showed that the Finglen branch has a steeper fall than the Lednoch, at first leaving the fork in the proportion of 3 to 2, a point 20 feet distant therefrom in the former, and one 30 feet in the latter, being on the same level. The channel, however, being wider in the Lednoch, keeps the flow of water pretty equal in both.

It was also remarked by another correspondent that a stone barrier lay across the bed of the stream at the divergence; and this seemed to require examination. I therefore had the stones, three in number, removed for some hours. The result was to make little or no difference to the waterflow, which remained as before, nearly equally divided.

The bump or breakwater eminence was found to be of a firm soil, not peaty, but covered with a coarse grass. As you pass to the south-west up the watershed, "peat hags," as they are called, break out on the neck adjoining the eminence; but at this, the lowest point in the ridge, the ground still stands high and clear, forming a marked water-parting between the two forks of the stream, as will be seen by the sketch.

The run of water is a good decided one both ways, with all the character of a mountain rivulet.

3. *Extracts of Letters from W. WINWOOD READE, Esq., to ANDREW SWANZY, Esq., F.R.G.S., relating to his journeys in Western Africa.*

MR. W. WINWOOD READE left England on a journey of exploration in Western Africa, in May, 1868, under the auspices of the Society, and aided by Mr. Andrew Swanzy, the West-African merchant, so well known for his liberality in encouraging all scientific effort. The original intention of the traveller was to ascend the Assinie River and penetrate, if possible, to the Kong Mountains. Foiled in this by the opposition of chiefs near the coast, and a native war, he accepted, after several minor excursions, an invitation from Sir Arthur Kennedy, Governor-in-Chief of our West African possessions, to explore the interior from Sierra Leone, and thence to the upper waters of the Niger. According to the last news (August 1st, 1869) Mr. Reade was on his way to the sources of the Niger, from Falaba, and had reached a town called Fara-bana, having 10,000 inhabitants, on the upper waters of the great river.

"Accra, Sept. 5th, 1868.

"The Assinie settlement is not at the mouth of the river, which is some distance to windward. This river, on arriving at the seaboard, instead of debouching, runs along the side of the beach for some way, and then discharges itself into the sea over a bar impassable to shipping. At Assinie, the strip of land between the river and the sea is exceedingly narrow; it is occupied by a native town, called Mafia, inhabited chiefly by traders. The houses are of wood, small and dark; there is no stockade, and very little to show the wealth which yet probably exists there. There are two French factories—small wooden houses—which, insignificant as they are, cost a good deal of money. At Assinie there appears to be no skilled labour of any kind, excepting the carpenter and other artizans, who come from Senegal. With respect to provisions, the plantain and cassada, as in all forest countries, are the staple, as maize is after you reach Axim, and as rice is at some point which I have not yet ascertained the other way. Maize is grown in small quantities, but is not, I believe, made into *kankee*, or country bread. There are also yams. The plantain is frequently eaten in the form of *foofoo*, a kind of dough, well known along the coast. Fowls, sheep, and bullocks appeared